R E P O R T R E S U M E S

ED 015 495 CG 001 048

FACTORS RELATED TO TEACHERS' IRRITABILITY IN RESPONSE TO PUPIL CLASSROOM BEHAVIORS.

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PUB DATE SEP 67

EDRS PRICE MF-$0.25 HC-$0.72 16P.

DESCRIPTORS- FACTOR ANALYSIS, RESEARCH, *TEACHERS, *STUDENTS, *BEHAVIOR PROBLEMS, *RATING SCALES, *RESPONSE MODE, CLASSROOMS, BEHAVIOR CLASSIFICATION CHECKLIST, NEED FOR ASSISTANCE INVENTORY

A 158 ITEM SURVEY, THE BEHAVIOR CLASSIFICATION CHECKLIST (BCC), WAS CONSTRUCTED TO MEASURE THE VARIABILITY IN INTENSITY REACTION TO PUPIL CLASSROOM BEHAVIORS. THE NINE SCALES OBTAINED BY FACTOR ANALYSIS WERE EXPLORED TO CHECK THEIR CONSTRUCT VALIDITY AGAINST OTHER MEASURES AND OTHER INFORMATION ON THE SUBJECTS. WHEN SPECIAL SCHOOL PERSONNEL AND TEACHERS IN THE SAME SCHOOLS WERE COMPARED ON IRRITABILITY IN REGARD TO THE NINE CATEGORIES, SPECIAL PERSONNEL WERE FOUND TO VIEW THE PROBLEMS AS LESS IRRITATING. A NEED FOR ASSISTANCE INVENTORY (NFA), WHICH ALLOWS TEACHERS TO EXPRESS THEIR NEED FOR AID IN REGARD TO CERTAIN PUPIL BEHAVIORS, AND THE BCC WERE ADMINISTERED TO TEACHERS INVOLVED IN HEADSTART PROGRAMS. FROM THE NFA, EIGHT SCALES WERE FACTOR ANALYZED. IN GENERAL, COMPARISONS OF THE EXPRESSED NEEDS OF TEACHERS AND THE CATEGORIES OF PUPIL BEHAVIOR FOUND MOST IRRITATING YIELDED SEVERAL SIGNIFICANT CORRELATIONS. BECAUSE OF THE HIGH INTERCORRELATIONS OF THE BCC SCALES, HIGHER ORDER FACTORS WERE INVESTIGATED AND TWO WERE OBTAINED (AN AGRESSIVE FACTOR AND A WITHDRAWN, COMPLIANT FACTOR). MORE RESEARCH IS NEEDED. THE BCC REQUIRES STILL MORE ADEQUATE VALIDATION DATA. THIS PAPER WAS PRESENTED AT THE AMERICAN PSYCHOLOGICAL ASSOCIATION CONVENTION, WASHINGTON, D.C., SEPTEMBER, 1967. (SK)

ED015495

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Factors Related to Teachers' Irritability in Response to Pupil Classroom Behaviors

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Symposium Paper Read at APA,
Division 15, September, 1967

CG 001 048

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Wickman (1928), in his classic study of the interaction of child behavior and teacher attitude, established that there were marked and interpretable differences between the reactions of teachers and of mental hygiene experts to certain problem behaviors. Teachers were more reactive to attacking types of conduct by children, whereas mental hygienists were more concerned with fearful, withdrawing kinds of behavior. It appeared then that teachers regarded as more serious those problems which transgressed their "...moral sensitivities and authority or which frustrate(d) their immediate teaching purposes..." (Wickman, 1928, p. 116). In a sense, teachers were captives of their own attitudes and values and of the curriculum. Wickman's findings had a broad impact upon the educational structure, leading to the development of greater emphasis in teacher training upon the social milieu of learning and upon positive mental health.

About 25 years later, Stouffer and his associates exhumed Wickman's original work in the hope of obtaining meaningful comparative data on the post-depression and World War II, cold war era teacher. Psychiatry, sociology, and psychology could be presumed to have made major inroads in educational thought by this time, thereby increasing teachers' awareness of what constitute the real problems. The essentials of Wickman's study were followed in a replication attempt, even to the retention of identical wording from the original study's instructions to the respondent, i.e., "... to list the specific behavior in children that is undesirable to you as a teacher." (Stouffer & Owens, 1955, p.322). Teachers were further told that they would later be asked to rate the behavior for its seriousness. As in Wickman's work, teachers were cautioned to avoid inferential statements about the sources of bad behavior.

One unique feature of Stouffer's method was that he inquired whether his Ss had heard of Wickman's study and if they knew about the results. He then eliminated all of the teachers who admitted such knowledge, although Stouffer did not specify exactly the degree of knowledge which disqualified Ss. The result was a reduction of sample size from 368 to 232, which to all intents and purposes may well have affected his initial attempts to secure a representative teacher sample. One would suspect that teachers who remembered Wickman's name or results had been exposed deliberately in training to the kinds of information and, perhaps, experiences which Wickman had advocated. Eliminating them should have left only the uninformed, or the forgetful. Stouffer then classified his Ss' responses into Wickman's seven problem type categories plus into two more of his own devising:

1. Violations of general standards of morality and integrity; 2. Transgressions against authority; 3. Violations of general school regulations; and so on.

Nervous behavior, unhappiness, depression, and fear were identified as of extreme importance now. Difficulties with other children constituted most of the behavior problems or items listed. Interpretively, Stouffer saw his data as indicating mainly what children do rather than neglect to do. The aggressive, school-routine-disrupting child still received a great deal of attention, but teachers were no longer oblivious to maladaptive warning signs.

Ryans (1960) who gathered teacher characteristics data during the same period as Stouffer found by much more rigorous procedures that teachers judged to be highly effective by their administrators held more favorable attitudes toward pupils at both the elementary and secondary levels. Three highly intercorrelated factors suggested that the teacher's educational viewpoint is a semi-homogeneous aggregate of the traditional-permissive dichotomy. The poorer teachers might, thus, have been characterized as being more traditionally oriented. Indirect estimates likewise supported

the position that effective teachers have more positive attitudes toward pupils, meaning that they show greater confidence in them.

In view of the intellectual awareness by many teachers in training or in service of what constitutes an adequate teacher, individual differences in teacher attitudes toward child behavior can now be assumed to reflect a more unitary meaning than was true in Wickman's time. The measurement of teacher variability in intensity of reaction to children's problem behavior came by this line of reasoning to be one focus in 1963 of the Personnel Services Research Center (now Child Development Center). As Pierce-Jones (1965) reasoned, one aspect of the teacher's readiness to profit from consultation services can be gauged by his expressed sensitivity or irritability to certain child behaviors. With the aim of measuring this tendency, a 158-item survey was assembled at that time to be used in a study supported by the Interprofessional Research Commission on Pupil Personnel Services. Pierce-Jones has reported previously on the nine scales which were obtained by factor extraction and named: 1. Disorderliness, 2. Sexual activities, 3. Non-conformity, 4. Symptoms of paranoia, 5. Physical-verbal aggression, 6. Withdrawn behavior, 7. Goody-goody behavior, 8. Resistance, negativism, and 9. Nervous lack of control. Besides providing a hierarchy of problems for consultation assistance, there is the possibility of sorting clusters, and subsequently relating them to teacher problems (Iscoe, Pierce-Jones, & Friedman, 1967). Generally satisfactory split-half reliabilities have been obtained for the scales (Table 1).

The present report discusses various attempts to check the construct validity of the scales against other measures and information on the same Ss. Then some more recent higher-order factor studies of the nine scales themselves are reported.

In keeping with the findings of the studies reviewed earlier, we wondered

whether special school personnel would view as less irritating these nine problem categories, when compared with teachers in the same schools. For this analysis, 310 teachers' and 67 special personnel's scores were computed for each scale. Separate means were then computed for the two groups and compared by a sign test (Edwards, 1954). This was accomplished by subtracting the mean of group 2 from that of group 1 for each of the scales. The signs of the differences were then tabulated for evaluation, revealing eight plus differences and one minus difference (Table 2). Edwards describes an approximation formula which can be used to obtain the probability of such events, but it requires 10 paired observations, one more than was available with nine scales. Instead, the binomial expansion was used to obtain a probability for the occurrence of eight or more out of nine differences in the expected direction.

In this case, evidence would have been accepted as favoring the hypothesis if eight or nine had been as expected, so the numerator term contains p^8q and p^9, either of which events would have been accepted as evidence. The

$$p = \frac{1 + 8}{512} = .019$$

conclusion was that the null hypothesis could not be maintained, and this was accepted as evidence favoring the alternate hypothesis, that special personnel view these problem groupings as less irritating than do teachers, at least at the level of verbal behavior.

The next analysis is especially connected with the current activity of the Child Development Center in conjunction with Headstart Research and Evaluation. In the course of the IRCOPPS studies, a Need for Assistance Inventory (NFA) was constructed by PSRC. This form allowed teachers to express on a five-point frequency of use scale their probable needs for aid through consultation with the management of particular kinds of pupil behaviors

or of symptoms. This scale has also been factor analysed in the past, producing eight interpretable scales from its 50 items. The NFA and the Behavior Classification Checklist (BCC) were subsequently administered to all of the teachers involved in Summer, 1965 Headstart programs throughout Texas. Some comparisons were thus possible between the expressed needs of teachers for assistance and the categories of child behavior that they found irritating (Table 3). The scales of the NFA have been reported on previously (Pierce-Jones, 1965) and have been identified, respectively, as: 1. Rebellious Behavior, 2. Somatic complaints of children, 3. Immaturity and withdrawal behavior, 4. Shyness, 5. Managing instruction, 6. Managing classroom discipline, 7. Nervous hyperactivity of children, and 8. Symptoms of social ill-ease in children. In a sample of 1250, a correlation r = .062 would be significant beyond the .05 level and r = .081 would be significant beyond the .01 level. All of the coefficients in Table 3 are thus highly significant.

As far as differential interpretation of these coefficients is concerned, it may be noted first that confidence limits for a correlation coefficient can be established, if the coefficent is first converted to z' form, and then the formula for the standard error of z' is used (Edwards, 1954). In this instance, where n is 1250:

$$\sigma_{z'} = \frac{1}{\sqrt{n - 3}} = .0283$$

The confidence limits for the z' form of the correlation coefficient can thus be established by estimating the limits within which a particular z' would fall 95 percent of the time, i.e., from 1.96 standard deviations above to 1.96 standard deviations below z'. or $\pm$ 1.96 X .0283. One can expect that the true value for z' is not more than .0555 z' units from the mean, which would mean that it is unlikely that any of the coefficients in Table 3 is non-significant. By a more computationally involved procedure

described by Edwards (1960, p.85), one can determine the significance of the difference between correlations observed within the same sample. In the interest of time, I will simply summarize the outcome of this. A separate statement about each pair of means in Table 3 would have had to be made otherwise.

In general, given the range of coefficients shown in Table 3 and the substantial correlations among the BCC scales, i.e., none is less that .49 in the present sample of 1250, one can be certain that the largest and smallest coefficents in any row or column of Table 3 are significantly different. For intermediate values, a generalization is not as easily made. One may observe that the largest correlations in the series are due to associations between NFA scales: 3) Immaturity and withdrawn behavior, and 6) Managing classroom discipline; and BCC scales: 1) Disorderliness, 2) Sexual activities, and 5) Physical-verbal aggression. This suggests that whereas the most consensually mentioned strong needs of teachers are related dealing with both the withdrawn child and the behavior problem, teachers are still more consensually irritated by children's socially disruptive or offensive acts. In view of this interesting possibility about the relation of needs to irritations, it seems most unfortunate that optimally-weighted factor scores were not available for the NFA and the BCC at the time of this analysis. These would have eliminated the confounding effect in the matrix of Table 3 of the high intercorrelations existing within each of the two sets of scales. We are presently obtaining uncorrelated factor scores for the scales of each of these instruments. A reanalysis should then permit optimal discrimination of the interrelations of needs and child-induced irritations among Headstart teachers--a most important question in view of the variability of culture traits among ethnically different Headstart children. We will soon be in a better position to specify some of the correlates of teacher irritability than is now possible.

A final line of inquiry, in view of the high intercorrelations of the BCC scales, was what higher-order factors might account for the first-order factors. To answer this question, the intercorrelations of the nine scales were computed for one sample of 377 teachers (Table 4), and these were submitted to factor extraction and varimax rotation, producing the set of factor loadings of Table 5. Subsequently the same correlation matrix was produced for a larger sample of 1399 (Table 6). The correlations of Tables 4 and 6 appeared to be sufficiently parallel, that further factor extraction was not performed. Instead, factors based on the 377 subject analysis were interpreted.

The first high-order factor was principally associated with scales 1. Disorderliness, 2. Sexual activities, and 5. Physical-verbal aggression, with a lesser loading for 3. Non-conformity. Loadings for 4. Symptoms of paranoia and 8. Resistance, negativism were highly equivocal, loading nearly equally on both factors. The core meaning of this first factor seemed to be Aggressive, non-conforming behavior or, perhaps, Negative stimulus value, if one looks beyond the particulars to the composite child portrait thus rendered.

The second higher-order factor was less clearly defined, but still was interpretable in terms of 7. Goody-goody behavior, 6. Withdrawn behavior, and 9. Nervous lack of control. This last loading was almost equivocal. The factor has been designated Withdrawn, compliant, constricted behavior. It should be observed that the two BCC scales which shared their variance almost equally with the two high-order factors, i.e., 4 and 8, together could serve as a qualifying remark about either of the child types suggested. That is, both ultra-aggressive and ultra-overconventional child behaviors can be found coupled with suspicious and negative overtones.

It is further striking how much these two higher order factors hark

back to the original Wickman study, in which teachers showed greater concern with children who might be thought of as much like the child who is described as irritating by the first higher-order factor. The second higher-order factor described children like those who concerned Wickman's mental hygience experts. The two factors' respective means are 223.69 and 67.61, showing, as do the loadings, the disproportionate amount of variance accounted for by the aggression factor. To what extent this is a function of our item pool, we cannot yet say.

By way of a final comment, one of the gravest problems which we have faced with the BCC is the lack of adequate validation criteria. After the additional analyses which have already been mentioned are completed, we will surely have to turn our attention to the correlates of teacher irritability in actual classroom behavior. In any event, this 92-item instrument is a most promising one which seems worthy of the expense and effort that will be required to mount basic teacher-effectiveness criteria studies.

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TABLE 1

SPLIT-HALF, SPEARMAN-BROWN RELIABILITIES FOR THE SCALES AND TWO SECOND-ORDER FACTORS OF THE BEHAVIOR CLASSIFICATION CHECKLIST (N= 1399).

Scales								
1	2	3	4	5	6	7	8	9
.90	.91	.85	.77	.88	.81	.79	.81	.86

Second-Order Factors	
1	2
.96	.90

TABLE 2

GROUP MEANS, DIFFERENCES, AND SIGNS FOR TEACHERS (N=310) AND SPECIAL SCHOOL PERSONNEL (N=67) FOR NINE SCALES OF THE BEHAVIOR CLASSIFICATION CHECKLIST.

Scales	Groups 1	2	(1-2)	Signs
1	40.31	39.34	0.97	+
2	41.26	40.73	0.53	+
3	36.09	34.99	1.10	+
4	22.59	22.42	0.17	+
5	41.43	40.60	0.83	+
6	18.81	17.88	0.93	+
7	12.15	12.57	-0.42	-
8	23.91	22.10	1.81	+
9	30.86	29.10	1.76	+

TABLE 3

INTERCORRELATIONS OF NINE BEHAVIOR CLASSIFICATION CHECKLIST (BCC) SCALES AND EIGHT NEED FOR ASSISTANCE (NFA) SCALES (N = 1250).

	B C C Scales								
NFA Scales	1	2	3	4	5	6	7	8	9
1	.26	.27	.22	.22	.28	.21	.20	.24	.23
2	.24	.24	.22	.20	.22	.24	.23	.23	.24
3	.33	.33	.30	.27	.33	.25	.21	.29	.30
4	.27	.29	.25	.24	.28	.22	.21	.25	.24
5	.27	.27	.24	.23	.27	.24	.24	.25	.25
6	.33	.34	.30	.28	.36	.24	.20	.29	.27
7	.29	.29	.25	.25	.29	.25	.21	.26	.25
8	.26	.27	.24	.21	.28	.21	.19	.25	.23

All correlations are significant beyond p.05.

TABLE 4

INTERCORRELATIONS, MEANS, AND STANDARD DEVIATIONS FOR NINE UNIT-SCORED SCALES OF THE BEHAVIOR CLASSIFICATION CHECKLIST (N = 377).

	Scale Number								
MEANS	1	2	3	4	5	6	7	8	9
	42.98	46.46	37.60	21.94	47.45	18.65	13.89	26.95	32.76
SIGMAS	1	2	3	4	5	6	7	8	9
	9.34	9.10	8.78	5.40	8.26	5.09	4.94	6.49	7.60
R MATRIX		2	3	4	5	6	7	8	9
1		.76	.75	.54	.75	.47	.09	.61	.61
2			.66	.58	.81	.43	.07	.56	.55
3				.69	.72	.64	.27	.72	.76
4					.66	.60	.28	.70	.67
5						.50	.02	.64	.62
6							.42	.70	.69
7								.27	.51
8									.72

TABLE 5

PRINCIPAL AXIS, VARIMAX ROTATED FACTOR LOADINGS FOR SECOND-ORDER FACTORS OF THE BEHAVIOR CLASSIFICATION CHECKLIST (77.92 PERCENT OF TOTAL VARIATION EXTRACTED).

Scales (Classes of Behavioral Irritability)	Loadings I.	II.
1. Disorderliness	.8709	-.1467
2. Sexual Activities	.8875	-.0749
3. Non-Conformity	.7715	-.4547
4. Symptoms of Paranoia	.6502	-.5213
5. Physical-Verbal Aggression	.9164	-.1280
6. Withdrawn Behavior	.4669	-.7284
7. Goody-Goody Behavior	-.1459	-.8667
8. Resistance, Negativism	.6564	-.5657
9. Nervous Lack of Control	.5683	-.7016

TABLE 6

INTERCORRELATIONS, MEANS, AND STANDARD DEVIATIONS FOR NINE UNIT-SCORED SCALES OF THE BEHAVIOR CLASSIFICATION CHECKLIST (N = 1399).

	Scale Number								
MEANS	1	2	3	4	5	6	7	8	9
	43.35	45.96	37.94	22.08	47.12	19.65	14.36	27.17	33.60
SIGMAS	1	2	3	4	5	6	7	8	9
	8.76	9.58	8.37	5.18	8.48	5.04	4.85	6.46	7.35
R MATRIX		2	3	4	5	6	7	8	9
1		.80	.75	.60	.80	.56	.06	.63	.64
2			.67	.58	.82	.49	.01	.55	.54
3				.70	.73	.68	.22	.76	.76
4					.66	.71	.31	.72	.70
5						.54	.01	.61	.61
6							.35	.80	.75
7								.32	.41
8									.76